CLAIMS:

1. A hydraulic governor device for use with a rotational shaft of a door assembly for controlling a rotation of said rotational shaft, the device comprising:

a sleeve having first and second opposite ends, the sleeve comprising a chamber, and a tube being separate from said chamber;

first and second end coverings each being provided with a recess shaped and sized to cooperate with the tube and the chamber, the first and second end coverings being mounted respectively onto the first and second ends of the sleeve so as to define a hydraulic flow path from one end of the chamber to another end of the chamber, said hydraulic flow path extending through the recess of the first end covering, the tube, and the recess of the second end covering;

a fluid substantially filling the hydraulic flow path and being able to travel along said path;

an input shaft extending through the ends coverings and the chamber, the input shaft being operatively connected to the rotational shaft of the door assembly so as to rotate with the same;

a first piston disk positioned inside the chamber and mounted about the input shaft, the first piston disk being slidably movable along the input shaft;

a second piston disk positioned inside the chamber and mounted about the input shaft, the second piston disk being slidably movable along the input shaft and being further connected to the first piston disk with spacer rods so as to slide in accordance with the first piston disk along the input shaft; and

a reciprocating assembly operatively connected between the input shaft and the piston disks and cooperating with the same for converting a rotation of the input shaft into a reciprocating movement of the pistons disks within the chamber, so that said reciprocating movement of the pistons disks inside the chamber causes in turn the fluid to travel along a reciprocating movement along the hydraulic flow path, said reciprocating movement of the fluid along the hydraulic flow path causing a damping effect of the rotation of the input shaft and thus controlling the rotation of the rotational shaft of the door assembly via a damping effect.

2. A hydraulic governor device according to claim 1, wherein the reciprocating assembly comprises a plurality of cams securely mounted about the input shaft, between the first and second piston disks, a first element protruding from the first piston disk, and a second element protruding from the second piston disk, the first element cooperating with the cams via a rotation of the input shaft for urging the first piston disk away from the cams and the second element cooperating with the cams via a rotation of the input shaft for urging the second piston disk away from the cams, thereby causing the first and second piston disks to undergo a reciprocating movement inside the chamber as the rotational shaft of the door assembly rotates.

3. A hydraulic governor device according to claim 1, wherein at least one of the end coverings is provided with a flow control valve operatively connected to the hydraulic flow path for controlling flow rate conditions of the fluid inside the hydraulic flow path, and thus controlling rate of rotation of the rotational shaft of the door assembly.

4. A hydraulic governor device according to claim 1, wherein the fluid is a substantially incompressible fluid.

5. A hydraulic governor device according to claim 1, wherein the device comprises a first guiding post operatively connected between the first end covering and the first piston disk for guiding movement of the first piston disk along the chamber.

6. A hydraulic governor device according to claim 5, wherein the device comprises a second guiding post operatively connected between the second end covering and the second piston disk for guiding movement of the second piston disk along the chamber.

7. A hydraulic governor device according to claim 1, wherein the piston disks comprise bores through which extend the input shaft, said bores being provided with bearings for facilitating sliding of the piston rods along the input shaft.

8. A hydraulic governor device according to claim 1, wherein the device comprises seals provided between the piston disks and the chamber, and between the piston disks and the input shaft, for substantially preventing fluid from the hydraulic flow path from entering into the chamber between the first and second piston disks.

9. A hydraulic governor device according to claim 1, wherein the first and second end coverings are mounted respectively onto the first and second ends of the sleeve and fastened onto each other by means of tie rods.

10. A hydraulic governor device according to claim 1, wherein the device comprises a first seal provided between the first end of the sleeve and the first end covering, and a second seal provided between the second end of the sleeve and the second end covering, for substantially preventing fluid from exiting the device.

11. A door assembly having a door curtain operable via a rotation of a rotational shaft, the door assembly comprising a hydraulic governor device cooperating with the rotational shaft for controlling a rotation of said shaft, the device comprising:

a sleeve having first and second opposite ends, the sleeve comprising a chamber, and a tube being separate from said chamber;

first and second end coverings each being provided with a recess shaped and sized to cooperate with the tube and the chamber, the first and second end coverings being mounted respectively onto the first and second ends of the sleeve so as to define a hydraulic flow path from one end of the chamber to another end of the chamber, said hydraulic flow path extending through the recess of the first end covering, the tube, and the recess of the second end covering;

a fluid substantially filling the hydraulic flow path and being able to travel along said path;

an input shaft extending through the ends coverings and the chamber, the input shaft being operatively connected to the rotational shaft of the door assembly so as to rotate with the same;

a first piston disk positioned inside the chamber and mounted about the input shaft, the first piston disk being slidably movable along the input shaft;

a second piston disk positioned inside the chamber and mounted about the input shaft, the second piston disk being slidably movable along the input shaft and being further connected to the first piston disk with spacer rods so as to slide in accordance with the first piston disk along the input shaft; and

a reciprocating assembly operatively connected between the input shaft and the piston disks and cooperating with the same for converting a rotation of the input shaft into a reciprocating movement of the pistons disks within the chamber, so that said reciprocating movement of the pistons disks inside the chamber causes in turn the fluid to travel along a reciprocating movement along the hydraulic flow path, said reciprocating movement of the fluid along the hydraulic flow path causing a damping effect of the rotation of the input shaft and thus controlling the rotation of the rotational shaft of the door assembly via a damping effect.

12. A door assembly according to claim 11, wherein the reciprocating assembly comprises a plurality of cams securely mounted about the input shaft, between the first and second piston disks, a first element protruding from the first piston disk, and a second element protruding from the second piston disk, the first element cooperating with the cams via a rotation of the input shaft for urging the first piston disk away from the cams and the second element cooperating with the cams via a rotation of the input shaft for urging the second piston disk away from the cams, thereby causing the first and second piston disks to undergo a

reciprocating movement inside the chamber as the rotational shaft of the door assembly rotates.

13. A door assembly according to claim 11, wherein at least one of the end coverings is provided with a flow control valve operatively connected to the hydraulic flow path for controlling flow rate conditions of the fluid inside the hydraulic flow path, and thus controlling rate of rotation of the rotational shaft of the door assembly.

14. A door assembly according to claim 11, wherein the fluid is a substantially incompressible fluid.

15. A door assembly according to claim 11, wherein the device comprises a first guiding post operatively connected between the first end covering and the first piston disk for guiding movement of the first piston disk along the chamber.

16. A door assembly according to claim 15, wherein the device comprises a second guiding post operatively connected between the second end covering and the second piston disk for guiding movement of the second piston disk along the chamber.

17. A door assembly according to claim 11, wherein the piston disks comprise bores through which extend the input shaft, said bores being provided with bearings for facilitating sliding of the piston rods along the input shaft.

18. A door assembly according to claim 11, wherein the device comprises seals provided between the piston disks and the chamber, and between the piston disks and the input shaft, for substantially preventing fluid from the hydraulic flow path from entering into the chamber between the first and second piston disks.

19. A door assembly according to claim 11, wherein the first and second end coverings are mounted respectively onto the first and second ends of the sleeve and fastened onto each other by means of tie rods.

20. A door assembly according to claim 11, wherein the device comprises a first seal provided between the first end of the sleeve and the first end covering, and a second seal provided between the second end of the sleeve and the second end covering, for substantially preventing fluid from exiting the device.